

June 1883.

Mr. Marth, Satellite of Neptune.

479

Greenwich, Noon.	<i>Titan.</i>		<i>Iapetus.</i>	
	$\alpha_c - A$	$\delta_c - D$	$\alpha_s - A$	$\delta_s - D$
1884, Mar. 17	^s - 6.23	["] - 72.2	^s + 33.57	["] + 176.2
18	- 1.66	- 78.5	+ 32.28	+ 182.0
19	+ 3.14	- 73.7	+ 30.82	+ 186.7
20	+ 7.49	- 58.5	+ 29.19	+ 190.4
21	+ 10.77	- 35.2	+ 27.40	+ 193.0
22	+ 12.53	- 6.9	+ 25.47	+ 194.6
23	+ 12.48	+ 22.2	+ 23.42	+ 195.1
24	+ 10.59	+ 48.0	+ 21.26	+ 194.4

Ephemeris of the Satellite of Neptune, 1883-84. By A. Marth.

P, angle of position of the minor axis of the satellite's apparent orbit, in the direction of superior conjunction.

a , b , major and minor semi-axis of the apparent orbit.

$u - U$, longitude of the satellite in its orbit reckoned from the point which is in superior conjunction with the planet, or in opposition to the Earth.

$U + 180^\circ$, planetocentric longitude of the Earth, reckoned in the satellite's orbit from the ascending node on the celestial equator.

B, planetocentric latitude of the Earth above the plane of the orbit.

Gr. 1883.	P	a	b	$u - U$	Lat.	U	B
Sept. 6	318.83	16.63	7.31	181.56	612.51	137.95	26.08
16	318.76	16.72	7.34	74.07	.47	138.05	26.05
26	318.66	16.80	7.36	326.54	.42	138.20	25.99
Oct. 6	318.52	16.86	7.37	218.96	.37	138.39	25.91
16	318.36	16.91	7.37	111.33	.33	138.62	25.82
26	318.18	16.95	7.35	3.66	.31	138.87	25.71
Nov. 5	317.98	16.97	7.33	255.97	.29	139.14	25.59
15	317.78	16.97	7.30	148.26	.29	139.42	25.46
25	317.59	16.96	7.26	40.55	.29	139.70	25.33
Dec. 5	317.41	16.92	7.21	292.84	.30	139.96	25.21
15	317.25	16.87	7.16	185.14	.34	140.19	25.10
25	317.11	16.81	7.10	77.48	.37	140.38	25.00
1884. Jan. 4	317.00	16.73	7.05	329.85	.41	140.53	24.92
14	316.93	16.65	7.00	222.26	.46	140.63	24.86
24	316.89	16.56	6.95	114.72	.52	140.68	24.83
Feb. 3	316.90	16.46	6.91	7.24	.57	140.67	24.82
13	316.94	16.37	6.88	259.81	.63	140.61	24.84
23	317.02	16.27	6.85	152.44	612.69	140.49	24.88
Mar. 4	317.14	16.19	6.83	45.13		140.31	24.95

If the values of P , a , b and $u-U$ are interpolated for the times for which the apparent places of the satellite are required, the position-angles p and distances s are found by

$$s \sin (P-p) = a \sin (u-U).$$

$$s \cos (P-p) = b \cos (u-U).$$

The satellite moves in the direction of *decreasing* position-angles, and will be at its greatest elongations and at its *superior* and *inferior* conjunctions with the planet at the following hours, Greenwich M.T.:—

<i>nf. elong.</i> $p = P + 90^\circ$ $s = a$		<i>sup. conj.</i> P b		<i>sp. elong.</i> $P - 90^\circ$ a		<i>inf. conj.</i> $P + 180^\circ$ b	
1883.	h		h		h		h
Sept. 7	10.7	Sept. 8	2.9	Sept. 10	9.2	Sept. 11	20.4
13	7.	14	19.0	16	6.2	17	17.5
19	4.8	20	16.0	22	3.3	23	14.6
25	1.8	26	13.1	28	0.4	29	11.7
30	22.9	Oct. 2	10.2	Oct. 3	21.5	Oct. 5	8.7
Oct. 6	20.0	8	7.3	9	18.6	11	5.8
12	17.1	14	4.4	15	15.6	17	2.9
18	14.2	20	1.5	21	12.7	23	0.0
24	11.3	25	22.6	27	9.8	28	21.1
30	8.4	31	19.7	Nov. 2	6.9	Nov. 3	18.2
Nov. 5	5.5	Nov. 6	16.8	8	4.0	9	15.3
11	2.6	12	13.9	14	1.2	15	12.4
16	23.7	18	11.0	19	22.3	21	9.5
22	20.8	24	8.1	25	19.4	27	6.7
28	17.9	30	5.2	Dec. 1	16.5	Dec. 2	3.8
Dec. 4	15.0	Dec. 6	2.3	7	13.6	9	0.9
10	12.2	11	23.4	13	10.7	14	22.0
16	9.3	17	20.5	19	7.8	20	19.1
22	6.4	23	17.6	25	4.9	26	16.2
28	3.4	29	14.7	31	2.0	Jan. 1	13.3
1884.							
Jan. 3	0.5	Jan. 4	11.8	Jan. 5	23.1	7	10.4
8	21.6	10	8.9	11	20.2	13	7.4
14	18.7	16	6.0	17	17.2	19	4.5
20	15.8	22	3.0	23	14.3	25	1.6
26	12.8	28	0.1	29	11.4	30	22.6
Feb. 1	9.9	Feb. 2	21.2	Feb. 4	8.4	Feb. 5	19.7
7	6.9	8	18.2	10	5.5	11	16.7
13	4.0	14	15.2	16	2.5	17	13.8
19	1.0	20	12.3	21	23.5	23	10.8
24	22.0	26	9.3	27	20.6	29	7.8
Mar. 1	19.1	Mar. 3	6.3	Mar. 4	17.6	Mar. 6	4.8